

### REMARKS

The Office action of December 2, 2009, has been carefully considered.

Claims 15-19 and 21-22 now stand rejected under 35 USC 102(b) as anticipated by Christner et al, while Claim 20 has been rejected as obvious over Christner et al in view of Sekhar et al, Bernard et al and Carroll et al.

The Office action alleges that the newly cited patent to Christner teaches a lateral porous carbon electrode which is capable of being used as a support for gas treatment and has a structure which is thin and uniform with a pair of large, planar opposed surfaces and a very high porosity. Applicant notes initially that the allegation that the lateral porous carbon electrode of Christner et al is capable of being used as a support is pure speculation. In fact, the electrode of Christner et al is quite thin, with a thickness of 0.013 inches (0.33 mm) being given in Example 1. Applicant believes that an electrode of such a thickness would not be capable of being used as a support for gas treatment.

Moreover, Applicant has now amended Claim 15 to more clearly recite the steps of the invention, and from Claim 15 it can be seen that the claimed invention is not anticipated by Christner et al.

Claim 15 has now been amended to incorporate the recitations of Claims 16 and 17, which have been canceled. Thus, Claim 15 includes the steps of obtaining a framework formed of at least one of a felt, a non-woven material and a fabric, made of at least one of carbon fibers and SiC fibers, and stabilizing this framework by at least one of vapor impregnation and fluid impregnation, to form thereby at least one pyrocarbon and/or silicon carbide coating that forms a matrix. Thus, two steps are clearly set forth: a first step of obtaining a framework formed of felt, a non-woven material

and/or a fabric, and a second step of stabilizing the framework by at least one of vapor and fluid impregnation. Christner et al does not disclose or suggest such a two step process.

According to Christner et al, chopped fibers are obtained, which are coated with a solution containing furfuryl alcohol, phosphoric acid and water. The fibers are uniformly coated, drained, and heated to polymerize the furfuryl alcohol and to cure the resin so formed. This polymerization ensuring step preferably takes place in an oxidizing atmosphere and the resulting structure is described as "a mat." See column 3, lines 21-41. The object of the invention is this mat, which is used as a fuel cell electrode.

Even if it is alleged that this mat corresponds to the felt or non-woven material of the invention, there is no disclosure or suggestion in Christner et al of stabilizing the mat by vapor and/or fluid impregnation to form at least one pyrocarbon and/or silicon carbide coating forming a matrix. Applicant submits that it is this stabilization step which makes the substrate of the invention capable of supporting an object for processing, and the step does not take place according to the Christner et al patent.

Applicant recognizes that Christner et al does produce a framework made of carbon fibers. The framework, however, is made of chopped fibers only and is not related to a felt, a non-woven material or a fabric, as is the framework of the claimed invention.

As to the secondary references, Carroll is directed to a method for densifying porous billets. While Carroll does disclose graded layers, one of ordinary skill in the art would find no motivation to use such graded layers for stabilizing a framework made of felt, non-woven or fabric layers in order to produce a body having channels for conducting gas and used as

a support. According to Carroll, a matrix composition is deposited into the pores of a porous preform and is intended to close the pores. This is contrary to the purpose of the invention, in which the pores are to remain open to allow gas treatment of objects. Accordingly, one of ordinary skill in the art would not utilize Carroll in conjunction with the object of the invention.

Sekhar relates exclusively to a method for protecting carbonaceous materials against oxidation and no reference is made to a support. According to Sekhar, a closed body is provided with a coating to avoid oxidation. The fact that the body is not actually porous can be determined from column 8, lines 20 et seq, in which it is stated that the substrate to be coated "may be treated by sandblasting or pickled with acids or fluxes." At column 8, lines 6 and 7, it is stated that the coating is applied by "dipping, spraying or pouring the liquid into the substrate." This makes it clear that the result of the process is not a porous body with passages.

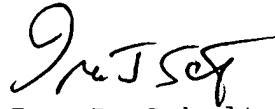
Bernard relates to a method of densifying a porous substrate by means of a matrix containing carbon, used for example for disk brakes, engine nozzles or other engine components. In Bernard, a porous object is to be densified, with no porosity intended to be available as a result of the process.

Withdrawal of these rejections is accordingly requested.

Claim 19 has been canceled as duplicative of Claim 15, and a new Claim 23 has been added to the application, reciting the high temperature carbonization process disclosed in paragraph [0025] of the application as published.

In view of the foregoing amendments and remarks, Applicant submits that the present application is now in condition for allowance. An early allowance of the application with amended claims is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Ira J. Schultz", written in a cursive style.

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